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Richland Operations Office
P.O. Box 550
Richland, Washington 99352

92-ERB-019

FEB 19 1992

Director
Pacific Northwest Laboratory
Richland, Washington

Dear Sir:

ENVIRONMENTAL RESTORATION PROGRAM DIRECTION FOR TASK: "BETA EMITTER
GROUNDWATER SAMPLE ANALYSIS - 1100-EM-1 OPERABLE UNIT (OU)"

The Pacific Northwest Laboratory (PNL) is authorized to continue performing the work described in the attached Statement of Work, "Beta Emitter Groundwater Sample Analysis - 1100-EM-1 Operable Unit." This work has previously been authorized by U.S. Department of Energy, Richland Field Office (RL) Request for Services # TD3204, as subsequently revised by TD3204, Supplement 1, dated January 9, 1992. This program letter supersedes and replaces the Request for Services. Funds (\$125,000) for this task have been provided to PNL via the letter of January 27, 1992, "INTERIM JANUARY 1992 APPROVED FUNDING PROGRAM PLAN AUTHORIZATION," from Mr. Anthony Lorenz, RL, to the Director of PNL, and will be documented in the Financial Plan to be issued to PNL in February 1992 (B&R No. EW-20-10-30-1).

Technical management for this task is to continue being provided by Mr. Wendell Greenwald, U. S. Army Corps of Engineers (USACE), in a continuation of his role identified in the Request for Services. The period of performance for the task is through September 30, 1992.

Mr. Bruce A. Prentice, Materials and Chemical Applications is to continue as the PNL Project Manager.

Questions regarding this letter should be directed to Mr. Robert K. Stewart on 376-6192, of my staff. Technical questions regarding the attached Statement of Work should be directed to Mr. Greenwald, USACE, on 376-1252.

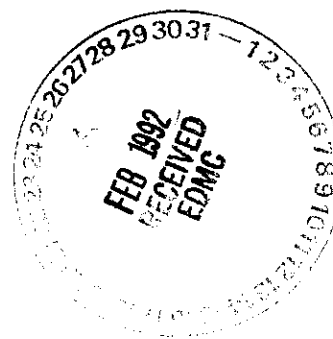
Sincerely,

EA Brubaker

E. A. Bracken, Director
Environmental Restoration Division

ERD:RKS

cc w/att:
W. Greenwald, USACE
J. Kessner, WHC
H. Massey, PNL,
B. Prentice PNL
J. Stewart, USACE
T. Wintczak, WHC



**REQUEST FOR SERVICES
BETA EMITTER GROUNDWATER SAMPLE ANALYSIS
1100-EM-1 OPERABLE UNIT**

Purpose and Scope:

Previous analyses of groundwater samples collected in the vicinity of the Horn Rapids Landfill (located within the 1100-EM-1 Operable Unit) have indicated that the samples exceed drinking water standards for gross beta activity (exceeds MCL's of 50pCi/l as defined in WAC 248-54-175). It has been suggested that technetium-99 may account for the bulk of the beta activity. The work described in this request will identify and quantify the radionuclides responsible for the beta activity. The end use of the data is 1) risk assessment computations, 2) remedial alternative studies, and 3) if necessary, as evidentiary data to support a DOE cost recovery action.

Description of Work:

It is anticipated that the analytical services requested will be conducted in two phases. The work defined in Phase I of this request consists of determining the total beta activity and the fraction of that activity attributable to technetium-99. In the event that significant beta activity is measured in Phase I, and cannot be attributed to technetium-99, additional analyses will be requested for a Phase II analysis to identify additional beta emitters. Details of this phased analytical work are described in: 1) 1100-EM-1 Groundwater Characterization Technical Proposal, October 1991 (letter from B. A. Prentice to M. A. Beck); 2) Clarification of Analysis Needs at 1100-EM-1 (a letter from M. A. Beck to B. A. Prentice on December 11, 1991); and 3) 1100-EM-1 Groundwater Characterization (a letter from B. A. Prentice to M. A. Beck on December 13, 1991).

The results from these analyses may be used as evidentiary data. The analytical results will be validated by peer review. The validation process entails reconstruction of analyses from original data; therefore, a data package sufficient for both use as evidentiary data and for validation must be provided. For the stated reasons, it is critical to maintain laboratory notebooks and records in sequential order and to provide complete documentation of all procedures and computations. Hand written test data shall be recorded legibly in ink in laboratory notebooks or on designated bench-sheets. Each page shall be signed and dated by the person who performed the analysis and entered the data. Corrections, other than editorial, shall be made in ink by drawing a single line through the information to be changed and initialling and dating the change. In the case of substantive changes, the reason for the change shall be indicated. All instrumental output shall be signed and dated by

the person who performed the instrumental analysis. If corrections need to be made in computerized data, a system to track corrections shall be in place. If manual calculations are performed, the reason for such action and the instrument output will be provided.

Monthly Report on Cost and Progress:

A report on costs expended and work accomplished shall be provided to John Stewart (USACE) not later than the 4th calendar day of each month.

Deliverables:

The deliverables, as specified in the 1100-EM-1 Groundwater Characterization, Technical Proposal, October, 1991, shall be provided to the USACE. In addition, the following deliverables are required, because of the need for legally defensible data and the peer review:

- All original instrument output such as chromatograms and strip charts; if copies are delivered, they must have original signatures and date from the analyst.
- All notebook pages which contain experimental data, calculations, etc. relevant to this project. If copies are provided to USACE, then these copies must bear original signatures and date.
- Raw data and computer transfer files (if any).
- Data package data and data verification contents checklist.
- Review and approval checklist.

All deliverables to USACE shall be original data forms and outputs unless the originals are delivered to DOE permanent records holding for retention. When copies of these documents are to be provided to USACE, they must bear original signatures.

Because of the tight schedule for this project, delivery of preliminary data as soon as possible is requested. Delivery of the instrument output, relevant notebook pages, and complete data packages may follow at a later time.

Fulfillment of the work defined in this request will require completeness levels of 95% for all data deliverables.

Funding:

Initial funding for this work will provide for the Phase I analysis in the amount of \$ 125,000. In the event that additional analysis is necessary, this request will be modified to provide for that work.

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Correspondence No.

Incoming 9200563

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